TENNESSEE LEAP

Annual Report 2019

Labor Education Alignment Program

Tennessee Higher Education Commission

THEC

Introduction from the Executive Director

January 1, 2019

Four years ago, just after the Drive to 55 was launched, Tennessee's education and workforce leaders saw a need to grow the connection and alignment between K-12 schools, higher education, and employers. In order to reach the goals of the Drive to 55 – and for its outcomes to be meaningful to our state's economy – those leaders understood that students needed to be graduating with skills that matched the demands of employers. In partnership with the Governor's Office, legislators, and key state agencies, the Labor Education Alignment Program (LEAP) was created and implemented.

The primary goal of LEAP is to create long-term relationships between employers, secondary education partners, and area community colleges or Tennessee Colleges of Applied Technology (TCATs) to identify and address job candidate "skills gaps" in the local workforce pool. LEAP created a statewide opportunity and comprehensive structure enabling students in Tennessee Colleges of Applied Technology and community colleges to participate in technical training developed with input from area employers. LEAP has catalyzed innovative conversations that allowed employers to collaborate with educators to build programs that would support Tennessee industry. LEAP partners have been instrumental in ensuring that program graduates have demonstrated their skills through training and certification, primarily through providing opportunities for work-based learning experiences where students can grow as professionals in real working environments.

A critical component of the Drive to 55 is the necessity to ensure that the credentials we are producing align with workforce needs. LEAP is an important step towards that goal. As presented in this report, LEAP has provided thousands of educational opportunities for students to be prepared to fill the jobs available in their local communities. When students graduate ready for the jobs our state is producing, the Drive to 55 succeeds and so does Tennessee's economy.

Sincerely,

Mike Krause
Executive Director
Tennessee Higher Education Commission

Table of Contents

Executive Summary

The Labor Education Alignment Program (LEAP) was established in 2013 through legislation sponsored by Senate Majority Leader Mark Norris (R-Collierville) and Representative Gerald McCormick (R-Chattanooga), to address the growing disparity between workforce needs and the supply of qualified workers in Tennessee.

LEAP's primary goal is to execute strategies that close the skills gap by ensuring that students gain the necessary training for the increasing number of high-skill and high-technology jobs offered in the state. LEAP accomplishes this goal by providing grant funding to communities that develop a framework for regional partnerships – comprised of Tennessee Colleges of Applied Technology (TCATs) and community colleges, industry partners, workforce development professionals, and K-12 educators, particularly those associated with Career and Technical Education (CTE). Collectively, these stakeholders create tailored workforce pipelines designed to provide the requisite technical skills that local employers need.

In the first iteration of LEAP in 2014, referred to as LEAP 1.0, $10 million was made available to communities through a grant competition. In total, 27 proposals were submitted for review, and selected 12 were to receive funding. Grant proposals from this initial competition targeted skills gaps in sectors with the largest skills deficits and workforce needs, namely advanced manufacturing, mechatronics, information technology, and career readiness (soft skills).

Through LEAP 1.0, students from 51 Tennessee counties participated in over 20,000 training and workforce development experiences. Projects engaged students through a range of activities, including enhancing CTE offerings, initiating new dual enrollment and dual credit courses in partner high schools, establishing or expanding new academic programs at TCATs and community colleges, and facilitating employer engagement with students via professional training events, academic camps, job shadowing, and internships.

In 2016, less than two years after LEAP's initial grant competition, the Tennessee General Assembly appropriated an additional $10 million for a second grant competition (LEAP 2.0) to continue and expand upon the program's initial successes. A review committee selected 12 additional proposals, with 11 ultimately funded and active. One project, Nashville Area Automotive and Diesel Pathway was mutually discontinued due to delays impacting delivery schedule. The 11 active projects are targeting production and healthcare occupations and increased the total LEAP service area to 67 counties. LEAP 2.0 projects have been operating since January 2017. Since then, they have served an additional 3,131 students across 73 high schools, 15 TCATS, and four community colleges within this service area.

LEAP 2.0 proposals mirrored much of LEAP's original structure, but also included additional funding opportunities dedicated to expanding Work-Based Learning (WBL) opportunities in communities throughout the state. To date 176 students have participated in a LEAP WBL experience, including teacher externships, job shadowing experiences, as well as summer career academy boot camps.

I. What is the Labor Education Alignment Program (LEAP)?

In 2013, the Labor Education Alignment Program (LEAP) was established through legislation (Public Chapter 338) to empower Tennessee to close skills gaps among its workforce and introduce education and training programs that respond to the demands of employers in communities across the state. Through LEAP, Tennessee ensures that the state-wide effort to grow the number of postsecondary graduates in the state under the Drive to 55 is accountable to the needs of industry on both the community and regional levels. To date, there have been two rounds of LEAP projects. The first iteration of the grant (LEAP 1.0) featured twelve projects that ran from January 2015 – January 2017. An additional twelve projects were selected, with eleven ultimately funded and active, for the second round of the program (LEAP 2.0); these projects began operation in January 2017 and will run through May 2019.

LEAP Supports the Drive to 55 and Tennessee's Workforce Development

LEAP is a component of the Drive to 55, Governor Haslam's goal of equipping 55 percent of working age Tennesseans with a degree or certificate by 2025. As Tennessee makes progress towards reaching this goal, it is critical for the state to ensure that new credentials produced towards the Drive to 55 are aligned with the authentic needs of industry in our communities. The LEAP program is designed to develop training pipelines that arm students with the specific skills needed to fill in-demand and open occupations, and create a pool of qualified workers for local industries.

According to analysis completed by the Tennessee Department of Economic Development, Science, Technology, Engineering, and Math (STEM) occupations are high-wage jobs with many openings in Tennessee. STEM and STEM-related fields account for around 7.5 percent of Tennessee's projected openings from 2017 to 2022. STEM and STEM-related jobs are projected to grow by 18 percent in Tennessee over the next ten years (2017-2027)[1]. Most of the projected openings in STEM or STEM-related occupations are within information technology, engineering, and healthcare occupation groups. With Tennessee's growth in these industries, it is critical that the state be proactive in addressing the educational and training needs associated with this sector.

LEAP's structure empowers local stakeholders to identify advanced industry workforce needs, and create training pipelines that directly respond to those needs. By establishing these workforce-responsive postsecondary training pipelines, LEAP helps to align the mission of the Drive to 55 with the authentic needs of Tennessee's industries, producing a more qualified and credentialed workforce.

[1] Tennessee Department of Economic & Community Development & Center for Economic Research in Tennessee. (2018) LEAP 2018 Occupational Analysis. https://www.tn.gov/content/dam/tn/ecd/documents/LEAP%20Report_11-1-2018.pdf

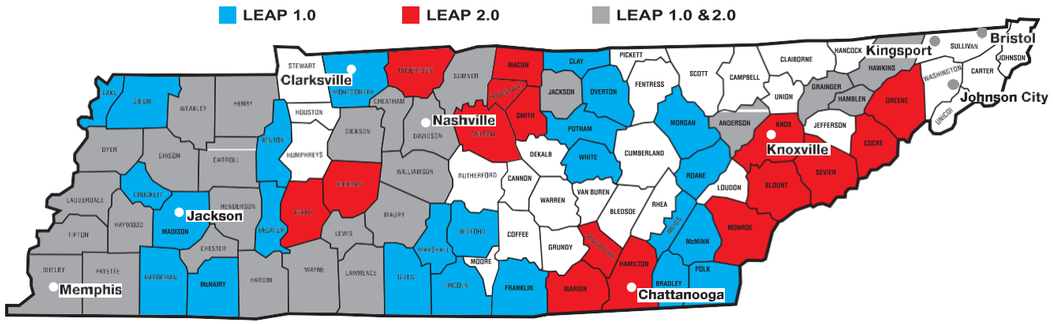
LEAP Responds to Local Needs with Collaborative Partnerships

LEAP helps communities close skills gaps by empowering regional partners from the educational, public, and private sectors to bridge silos and collaborate to develop local training solutions to workforce needs. These partnerships, called LEAP Collaboratives, work to identify skills gaps and initiate training pathways that directly respond to local shortages of qualified job candidates. Collectively, these Collaboratives create tailored workforce pipelines beginning in high school, and extending through postsecondary institutions and into the workforce. Collaborative partners include:

- Tennessee Colleges of Applied Technology (TCATs) and/or community colleges,
- Industry partners facing a demonstrable shortage of skilled workers,
- K-12 educators, particularly those associated with Career and Technical Education (CTE), and
- Workforce development professionals.

Each of these partners contributes expertise and functional knowledge to identify key labor needs within communities, and responds to those needs with specific academic and technical training opportunities. Partners also work to ensure the sustainability of each proposed training pathway.

LEAP Services Areas



LEAP Ensures the Alignment of Project Goals with State Directives

LEAP projects are selected through a competitive process by the Governor's Workforce Subcabinet, a taskforce comprised of leadership from the Tennessee Departments of Labor and Workforce Development, Economic and Community Development, Human Services, and Education, as well as the University of Tennessee and Tennessee Board of Regents systems, and THEC. The Subcabinet's role in selecting LEAP project recipients is intentional in that cross-agency representation helps establish a united vision for LEAP's success. Each Department represented has nuanced interest in workforce and economic development as it relates to their mission. Leveraging the Subcabinet in this capacity allows for the State to reflect the same alignment of partners and resources by bridging agency silos, and ensures that both the criteria for programmatic operations and the individual project goals are aligned with active state policy priorities and initiatives in all of Tennessee's communities.

II. Features of the LEAP Program

LEAP utilizes a flexible and customizable model to respond to the dynamic needs of local communities across the state. This model incorporates a framework that leverages multiple programmatic features that empower LEAP projects to be nimble in their efforts to meet the specific needs of each community. These features include shared stakeholder resources, multiple targeted funding opportunities, and customizable implementation strategies that enable communities to effectively identify skills gaps, build training pathways, and engage both students and employers in activities that build a robust and qualified workforce.

Local partners who work collaboratively to identify skills gaps and build professional pathways

The most important element of each LEAP project is the engagement of stakeholder partners within each LEAP Collaborative. Through their partnership, LEAP Collaboratives are able to effectively identify skills gaps, match training and educational competencies to identified gaps, and launch academic pathways to train students and produce graduates in high skill and high need fields. Collaborative partners accomplish this by utilizing their respective expertise, resources, and coordinating capabilities to build sustainable and workforce-responsive training pathways. Local partners Include:

Community Colleges and Tennessee Colleges of Applied Technology (TCAT)

Community colleges and TCATs serve as the foundation for LEAP training pathways. They provide the specialized training needed for students to develop the skills that are required in the workforce and coordinate with Local Education Agencies (LEAs) to embed career and technical training curriculum that matches the needs of employers within the community. Community colleges and TCAT partners also serve as the fiscal agent for each Collaborative and are responsible for the purchase of classroom equipment, and also the hiring and training of faculty.

Industry Partners

Industry partners help Collaboratives to identify specific skills gaps, lend expertise in the classroom through volunteer efforts, offer work-based learning opportunities, host professional development workshops and job shadowing days, and, most notably, donate time and equipment to enhance training on both the high school and postsecondary level. Through their input and collaboration, industry partners ensure that LEAP pipelines lead from education to employment.

Local Education Agency/Career and Technical Education Providers

High Schools that are part of Collaborative receive substantial support in the form of new equipment and faculty training. High schools play a role in maintaining program sustainability by coordinating career awareness programs and steering students into postsecondary programs. Because of their critical involvement in the Collaborative, LEAP pipelines require support from a variety of professionals in the Local Education Agency (LEA), including Career and Technical Education (CTE) administrators, faculty, and academic counselors.

Workforce Development Partners

Workforce development partners come from a variety of entities, but are typically comprised of one of the following: Workforce Development Districts, Chambers of Commerce, or Workforce Development Boards. As the lead entity of each LEAP proposal, workforce development partners fill the role of project coordinator, facilitating and mediating educational and employer partnerships, helping partners identify target work sectors, and ushering project deliverables throughout the LEAP grant lifecycle.

Targeted investments in equipment, personnel, and certifications to build professional pathways

LEAP Collaboratives invest grant funds to support initiatives that establish workforce pathways across Tennessee. These investments include capital purchases, the hiring of faculty and personnel, and the training of personnel and students through licensing and certification processes. The cooperation of LEAP Collaborative partners ensures that these targeted investments are optimized to produce skilled workers that meet the direct needs of industry within each respective community

Capital Investments

Capital investments comprise the largest proportion of grant expenditures and are used to provide new and state-of-the-art training equipment to education providers across all LEAP 2.0 projects. This equipment is used to transform classroom experiences into blended learning environments that engage students in both the theoretical and practical application of the technical skills and competencies needed by local employers. In some cases, capital investments are also leveraged to renovate or establish new classroom spaces to enhance capacity or meet energy and safety requirements for the new training equipment.

Personnel

Historically, both high schools and postsecondary institutions have struggled to compete with private industry to recruit talented faculty to train and teach students. LEAP investments provide education partners with funding to recruit faculty and establish funding streams to maintain their engagement with the institution over the course of the grant period. LEAP pathways cannot exist without talented and trained faculty to provide the classroom experience for students.

Licensing and Non-Credit Certifications

While in conversations with industry partners, many LEAP Collaboratives determined that proprietary non-credit certifications (credentials and certifications recognized by industry partners that are not recognized as postsecondary degrees on their own) are an effective way for students to signal competencies to employers. To respond to this opportunity, many LEAP projects have embedded new industry certifications within academic programs to serve as milestones that pace student progress through training pathways. LEAP funds support the purchasing of proprietary licensing for these certifications, and also provide any additional training to faculty to certify them in these training options.

Engaging Students along the Postsecondary Pipeline

LEAP Collaboratives employ a variety of strategies and initiatives along the postsecondary pipeline to engage students in LEAP opportunities. These opportunities range from early engagement among middle schoolers, to high school dual enrollment courses, to TCAT and community college programs, and even among adults seeking to increase skill levels through short term or specialized incumbent worker training. As with LEAP's targeted investments, LEAP Collaboratives are empowered with the flexibility to identify local needs and implement any one, or even all, of these educational opportunities to best serve the community and its employers.

Career and Technical Education (CTE) Career Clusters

The Tennessee Department of Education has established 16 academic frameworks called CTE Career Clusters that develop technical work-based skill sets among high school students.[5] LEAP communities that face shortages of skilled workers often find that CTE offerings at the local high schools are limited and/or do not feature the specific high school level courses that will prepare students for the identified needs of the community. As a result, LEAP Collaboratives have leveraged funds to embed new career clusters within partnered high schools to match industry need. Students are typically recruited into these career clusters as freshmen, and complete courses within each cluster as they progress through to senior year. During this time, students are exposed to a wide range of technical skills and vocational training to prepare them to enter either the workforce or a postsecondary program.

[5] Tennessee Department of Education (n.d.). Career Clusters https://www.tn.gov/education/career-and-technical-education/career-clusters.html

Early Postsecondary Opportunities (EPSOs)

LEAP Collaboratives also work to align CTE course offerings within career clusters with postsecondary coursework at both the TCAT and community college level in order to introduce dual enrollment and dual credit coursework to high school CTE students. These early postsecondary opportunities (EPSO) enable students to earn credit towards postsecondary degrees while still enrolled in high school. This provides tremendous benefits to the students as they are able to gain some exposure to the rigor of college-level work, while also accelerating their time to complete a postsecondary credential and enter the workforce.[6]

New Postsecondary Programs and Expanded Capacity

Several LEAP Collaboratives have partnered with TCATs and community colleges to initiate new training programs to match the needs of industry, resulting in the launch of both entirely new degrees and/or expansion classrooms for previously unserved communities across the state. In LEAP 2.0, these postsecondary pathways feature training exclusively in advanced manufacturing and healthcare fields. These programs also articulate to more advanced degrees offered by four-year institutions, providing students the opportunity to continue their education upon the completion of their two-year degree or less-than-two-year certification.

Incumbent Worker Training

LEAP Collaboratives have worked within communities to create specialized training opportunities through the TCAT or community college for incumbent workers seeking to increase their skill sets. In many cases, these opportunities are made possible by LEAP investments in renovations of lab space at partnered postsecondary institutions to enhance classroom capabilities to offer short-term specialized training for specific employers.

[6] Tennessee Department of Education (n.d.) Early postsecondary Opportunities. https://www.tn.gov/education/early-postsecondary.html

Career Awareness Initiatives

Career awareness initiatives are available across all ages and professional levels of the LEAP workforce pipeline and are essential to the recruitment and sustainability of each LEAP pathway. LEAP Collaboratives have utilized a wide range of strategies to gain the attention of students and educate them on the opportunities available within each LEAP career pathway. These include career fairs, corporate field trips, job shadowing experiences, faculty externships, summer academies, advisor trainings, parental outreach, as well as traditional marketing materials.

Programs that Inspire: AMSIP Externship Program

During the summer of 2018, Hamilton County educators were invited to participate in a summer externship program with local industries from the Chattanooga area. The summer externship program was designed to be a one-week "job shadowing" opportunity for educators to better understand advanced manufacturing processes. This program was also meant to better prepare educators to speak to their students about advanced manufacturing jobs in the Hamilton County area. The program's aim was to help local workforce leaders connect with the school system in order to establish the beginning of a much needed workforce pipeline. Educator participants provided positive feedback, stating they found the program to be very beneficial.

Terry Bonnick, an educator from Brainerd High School, was placed at BASF for the week and was given the opportunity to see the inner workings of a chemical compounding facility. Terry felt confident about encouraging her students to apply for jobs at BASF because she observed firsthand the impact and culture of the company. Furthermore, Terry felt that her students at Brainerd High School needed to know about manufacturing in the Chattanooga area. This led Terry to host a Manufacturing Day at Brainerd High School. Her event included Chattanooga State Community College, the University of Tennessee at Chattanooga, and the Tennessee College of Applied Technology. Terry also had industry support from numerous partners in the area like BASF and Roadtec. Through the AMSIP Externship Program Terry was able to connect her passion for advanced manufacturing and her dedication to her students with a tangible experience via her partnerships with local industry partners.

III. LEAP Provides Opportunities for Students to Learn on the Job

Inclusion of a Work-Based Learning (WBL) Component in the LEAP 2.0 Program

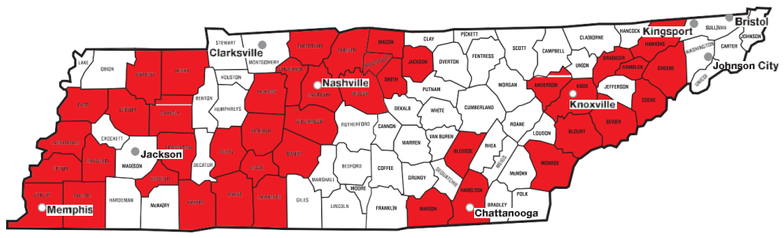
Many LEAP 2.0 projects incorporated work-based learning components in order to embed job training with academic instruction. Research identifies several benefits gained by both high school and college students who participate in experiences that combine classroom instruction with on-the-job training in a professional environment.[8] Students enrolled in these work-based learning (WBL) experiences apply academic theory to the practical requirements of the job and also develop the professional acumen to succeed in the modern workplace. WBL participants are also notably more likely to complete high school, enroll in a postsecondary institution, complete their postsecondary degree on time, find employment in a related field, and increase their lifetime earnings.[9]

Because of the benefits that WBL provides student participants, it became a focus within the operational scope of LEAP 2.0, effectively serving as both a bridge to employment for students, and a tool to enrich LEAP's current training opportunities. Currently, 10 of the 11 active LEAP 2.0 projects offer WBL opportunities. LEAP recognizes WBL as those experiences for which students are eligible to earn both a wage and academic credit relevant to an occupational subject area, as the result of an employment relationship between an employer and a student.

LEAP placements for WBL mimic the industry hiring process in that they require employers to establish hiring criteria, and evaluate and screen potential candidates before they can begin their WBL experience. Many employers require WBL placements to have completed some form of basic and relevant safety and skills training that is pertinent to the job before a candidate can be placed in a WBL experience. Because of this requirement, WBL placements are often delayed while students complete coursework demonstrating required skills.

Despite these requirements, projects have placed 144 high school and college students in WBL experiences in the advanced manufacturing and healthcare fields. Of those placed, 33 have continued their employment arrangement beyond the original scope of the WBL agreement and hope to transition to a full time position upon graduation.

LEAP 2.0 Service Area



[8] Association for Career and Technical Education (ACTE). (n.d.) *Work Based Learning ACTE Resources*. https://www.acteonline.org/clearinghouse_learning/#.WilMpkqnGM8

[9] Cahill, Charlotte. (July, 2016). *Making Work Based Learning Work*. http://www.jff.org/sites/default/files/publications/materials/WBL%20Principles%20Paper%20062416.pdf

Types of WBL Experiences for Students Created through LEAP Projects

WBL experiences are available across all levels of education and feature partnerships with employers in both the advanced manufacturing and healthcare fields. This variety of experiences requires that LEAP WBL programs be flexible enough to support each of the goals and outcomes expected from employers working with students in high school, TCAT, and community college environments. As a result, LEAP programs are empowered to include high school level internships experiences, cooperative education programs, and capstone experiences.

High School Internships

Students enrolled in a high school internship course spend time at both the employer and in a classroom setting under the tutelage of a state-certified WBL Coordinator. This structure ensures that the student is afforded the opportunity to participate in an immersive workplace experience, while also having resources that support reflection, self-awareness, and discovery.

The Tennessee Department of Education shares THEC's commitment to supporting quality WBL experiences in high schools across the state. In 2016, the department issued important guidance on implementing work based learning experiences.[10] This tool has been important in establishing structure around work-based learning completed as part of high school internships.

Partnerships between high schools and advanced manufacturing require integrating industry competencies within high school curricula. Many high schools simply do not have the resources to pursue this as a priority. Because of new educational pathways created through LEAP projects, students are now developing the competencies needed to complete relevant job tasks while in high school, which in turn opens new opportunities for employers to provide meaningful work-based experiences. Through these experiences, high school students are afforded the opportunity to discover professional interests and establish career goals within a field, and to determine what postsecondary programs are relevant to those discovered career paths.

TCAT Cooperative Education Programs

Students who have completed at least half of a program of study at a TCAT are eligible to enroll in a Cooperative Education (Co-Op) experience. Co-Ops provide students with the opportunity to earn academic credit while on the job at a partnered industry partner. In this type of WBL experience, a TCAT faculty member will review a work site and confirm that the competencies learned in the classroom are indeed being accomplished on site. The employer in turn will interview, hire, and train the student to develop additional skill sets on the job, replacing time in the classroom with an immersed workplace experience. Competencies not learned on the job are still completed in the classroom with the faculty member for all other facets of the program.

[10] Tennessee Department of Education. (2016). *Work-Based Learning Implementation Guide*. https://tn.gov/assets/entities/education/attachments/wbl_implementation_guide.pdf

Community College Capstone Experiences

Capstone courses often occur in the last semester of a student's academic program. Students produce a final project, presentation, or work-product or otherwise participate in an experience that demonstrates their mastery of the program's competencies. Several LEAP projects fund capstone experiences with employers in local industries like advanced manufacturing as well as with local healthcare providers through required medical practicum placements. Like a co-op experience, employers interview and hire students, and work in partnership with community college faculty to evaluate a student's work on their respective assignments. Employers also provide any additional training that may be required for the student to complete job requirements related to the experience. These experiences are designed to complement classroom training, serving as an evaluation on student progress to master competencies learned in the classroom.

Apprenticeships: A Promising Practice for Future LEAP Projects

According to the Georgetown University Center on Education and the Workforce, by 2020 the United Stated will face a shortage of 5 million workers who are equipped with technical certificates and credentials[2]. Over half of executives at large U.S. companies say that they are likely to have fewer skilled workers than they need over the next two years. Similar to work-based learning, apprenticeships are a worker-training model that pairs on-the-job training with classroom instruction and which can be employed to meet workforce demands.

An apprenticeship is a job in which an individual is paid to learn a set of skills through on the-job-training. In the United States, a formal system of "registered apprenticeships" was created in 1937 by the National Apprenticeship Act and is overseen by the U.S. Department of Labor and the individual states[3]. When an apprentice completes these requirements, the government issues a certificate of completion that then serves as a nationally recognized portable credential. Tennessee employers are able to participate in the formal registered apprenticeships system, but also in unregistered through the federal government or locally registered apprenticeships.

Despite a growing need, U.S. apprenticeships programs are small in number compared to other advanced economies. While apprenticeships may not be a familiar concept to many Americans, expanding the use of this highly effective training model can help Tennessee meet the demand for skilled works. Apprenticeships are also strongly aligned to the goals of the LEAP program given that they create pathways to well-paying careers by combining education and workforce training.

[2] Georgetown University Center on Education and the Workforce. Job Growth and Education Requirements Through 2020. https://cew.georgetown.edu/cew-reports/recovery-job-growth-and-education-requirements-through-2020/

[3] U.S. Department of Labor, Apprenticeship. https://www.dol.gov/apprenticeship/

Apprenticeships are particularly advantageous for employers, given that they can be customized to meet the needs of every business. Employers can take charge of building their own pipeline of highly-skilled workers by entirely creating their apprenticeship programs or by partnering with local institutions targeted programs. Research shows that apprenticeships offer a wide array of benefits to employers. By investing in talent development, employers gain a pipeline of skilled workers, increase productivity, and improve their bottom line. Here are four ways in which apprenticeships benefits employers:

1. Building a pipeline of skilled workers

Apprenticeships can be an effective tool in building talent. For businesses and employers that are in need of specific or rapidly evolving skills, apprenticeships provide an effective strategy for meeting demand for skilled labor. Through apprenticeship programs companies have the opportunity to train workers to meet their specific needs and standards.

2. Boosting employee retention

Employers in other countries with more robust apprenticeship models find that they increase worker loyalty. While some employers may worry about losing employees after investing time and money, the research shows that apprentices are loyal to the companies that have made significant investments in their education and training. In England, the average retention rate for former apprentices across all industries in 73 percent[4].

3. Maximizing your investment

There are many ways that employers can maximize their investment in education and training. While many businesses choose to create and implement the entirety of their apprenticeship programs, it is possible to develop partnerships with area institutions of higher education to create, house, or co-implement the education component of apprenticeships. Employers also save money on wages by sponsoring an apprentice, given that they start out earning about 40 to 50 percent less than a fully trained employee.

4. Making a positive return on investment

Companies in countries with more expansive apprenticeship systems have been found to make a positive return on investment and increate their bottom line. In England, an apprenticeship raises a company's economic output by about $366 a week. In Switzerland, employers earn a net $300 million each year from work apprentices do while training on the job[5].

[4] Apprenticeships Evaluation 2012 to 2013: learner and employer surveys. United Kingdom Government. https://www.gov.uk/government/publications/apprenticeship-survey-learners

[5] Center for American Progress (2013): Training for Success: A policy to Expand Apprenticeships in the United States.

Programs that Inspire: LEAP Grant STEM Summer Experience

Pellissippi State Community College and Blount Partnership hosted a week-long career exploration and work-based-learning camp for Alcoa, Blount County and Maryville high school at Pellissippi State Community College's Blount County campus. The camp was in response to the growing need for various work-based learning opportunities and hands-on experiences for youth in order to grow the future manufacturing workforce in Blount County.

The week-long LEAP Grant STEM Summer Experience hosted students who had been recommended by their high school teachers. Eleven students participated, including six from William Blount High School, three from Alcoa High School, one from Maryville High School and one from Heritage High School.

The week was kicked-off with a meeting led by school faculty informing students and their parents of the opportunities in advanced manufacturing. This was a crucial step in ensure students and their families understood the value, relevancy, and future impact of participating in the STEM Experience.

The week consisted of students spending a half-day in advanced manufacturing facilities, and the other half-day on Pellissippi State's campus getting hands-on experience with the tools, equipment and robotics they observed in industry. Participating industries that hosted students at their facilities were: WYKO Tire Technology in Greenback, Del Conca Tile Manufacturer in Loudon and AESSEAL in Rockford. Curriculum and lessons throughout the week included work on Ohms Law, Series and Parallel Circuits, measuring voltage and currents, robotics, writing programs, data acquisition, how to write LabView program, programmable logic controllers (PLCs), writing basic ladder programs, motor controls and wiring and loading DC and AC motors.

On the last day of the camp, students were allowed the opportunity to choose between practicing robotics or motor controls. Parents were invited to return to see what the students had learned over the week. The students were enthused throughout the week, so much so, instructors went far beyond their plan for curriculum, as the youth wanted further understanding of the processes they were learning about. This week was so successful that Pellissippi State Community College has plans to repeat it in Summer 2019.

IV. LEAP Collaboratives Elevate Employer Voices and Promote Industry Engagement

LEAP Collaboratives rely heavily upon their industry partners to keep the needs of business central to the development of each new education and training pathway. LEAP projects provide Tennessee employers with the opportunity to engage and have their voices heard throughout the lifecycle of the grant:

- During the development of the LEAP project proposals, industry partners identify and help prioritize specific skills gaps around which educational and training pathways will be developed.

  During this planning and pre-implementation stage, employers also work with educators to identify necessary training equipment, confirm faculty credentials, and suggest changes or additions to curriculum, such as the inclusion of proprietary industry certifications.

- Once courses and training programs are established during the implementation stage and students begin to enroll, employers continue to serve in both an advisory role to the project team, and in a more active role by providing direct support to students through work-based learning opportunities, and by lending expertise in the classroom via guest lectures, hosting career awareness and soft skill development workshops for students and faculty, volunteering at career fairs, offering job shadowing days, and even donating additional or specialized equipment to be used in the classroom.

- As projects begin to transition off of LEAP funding support, industry partners play a key role in sustaining the initiative by maintaining their responsibilities associated with the grant and through their continued partnership with the LEAP Collaborative. This enables communities to respond to future needs of employers by empowering them to continuously adjust curriculum and shape training pipelines as new challenges arise in the years to come.

Collaboratives can only be effective if they are responding to the authentic needs of a region or community. The LEAP program is designed to serve as a platform for employers to voice their labor needs, and clarify the most effective training pathways to meet those needs.
By remaining engaged in all phases of the LEAP grant cycle, employer voices are elevated to guide community efforts to close skills gaps that respond to increasingly complex labor demands.

Industry partners also indicated that LEAP Collaboratives can play a role in responding to future development needs and demonstrated a strong commitment to maintaining the relationships created by their LEAP Collaborative after the life cycle of the grant.

V. LEAP 1.0 Recap & Lessons Learned:

Remembering LEAP 1.0

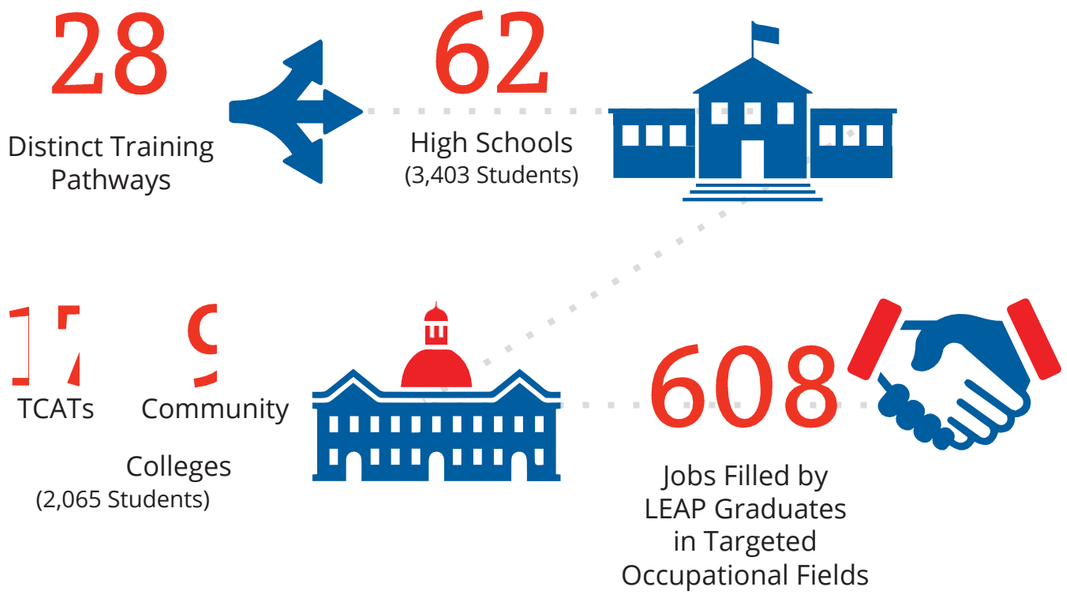
The first iteration of LEAP (LEAP 1.0) was comprised of 12 projects that ran from January 2015 to January 2017. In this first grant cycle, $10 million was made available to communities through a grant competition. Project awards were capped at $1 million, served at least 3 counties (with exceptions for major metropolitan areas with more than 170,000 residents), and were required to incorporate local stakeholders in a regional governing Collaboratives.

1. Local Industry Partners;
2. Postsecondary institutions;
3. LEA administrators (including Career and Technical Educators)
4. Local Economic Development Agencies and Boards.

Proposals also included additional data confirming industry needs and workforce projections as well as plans for sustainability.

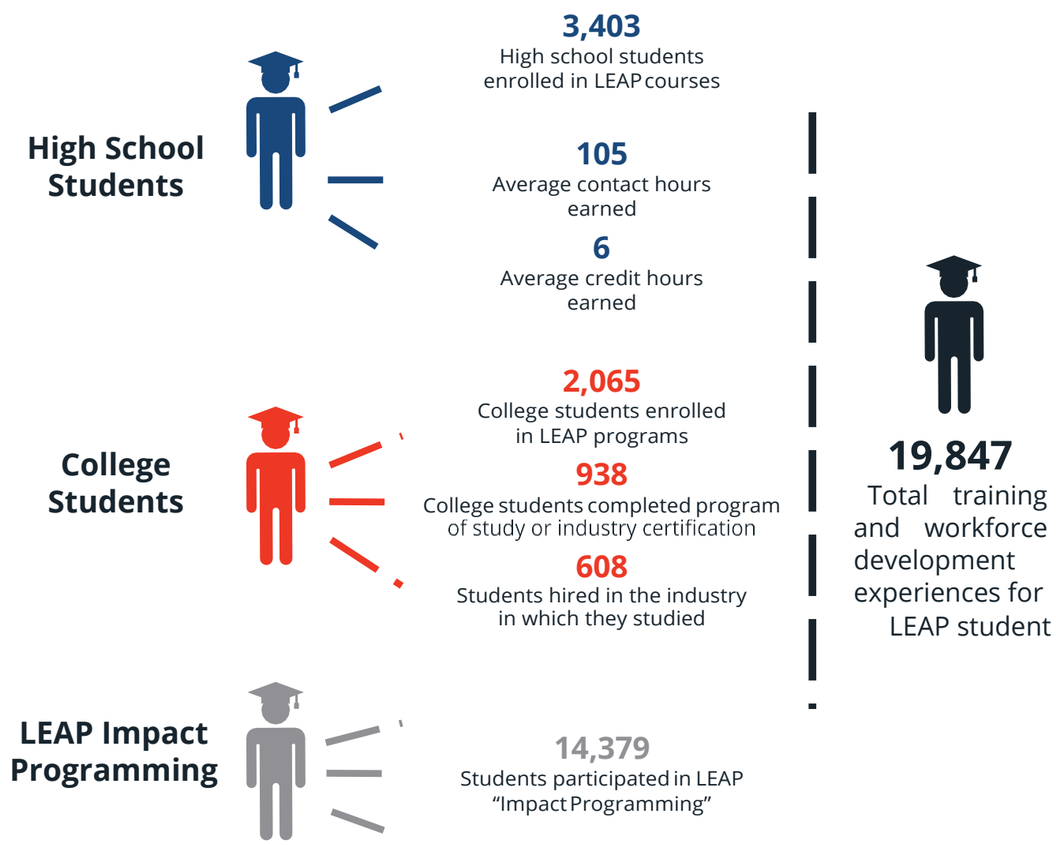
In total, 27 proposals were submitted for review, and 12 were selected to receive funding by the Workforce Subcabinet. Selected LEAP 1.0 grant proposals targeted skills gaps in advanced industry sectors including advanced manufacturing and information technology. LEAP programs also established LEAP Impact Programming to improve career awareness and job readiness skills (soft skills). Refer to the 2017 LEAP Annual Report for a more detailed description of all twelve projects and their outcomes from the first round of LEAP.

LEAP 1.0 Grants Credential Pathways



By the end of the LEAP 1.0 grant cycle in January 2017, LEAP Collaboratives had created 28 new distinct training pathways across 62 high schools, 17 TCATs and 9 community colleges. During the grant period, 3,403 high school students and 2,065 community college and TCAT students had participated in LEAP-initiated coursework and programs, and over 14,000 Tennesseans had participated in LEAP career awareness programs. Projects self-reported that LEAP pathways have enabled 608 Tennesseans to find jobs in targeted occupational fields to date.

LEAP 1.0 Project Outcomes 2015-2017: [13]



[13] Tennessee Higher Education Commission (2017) LEAP Annual Report 2017. Available: https://www.tn.gov/content/dam/tn/thec/institutions/grants/leap/LEAPReport2017.pdf

VI. LEAP 2.0 Overview and Project Profiles

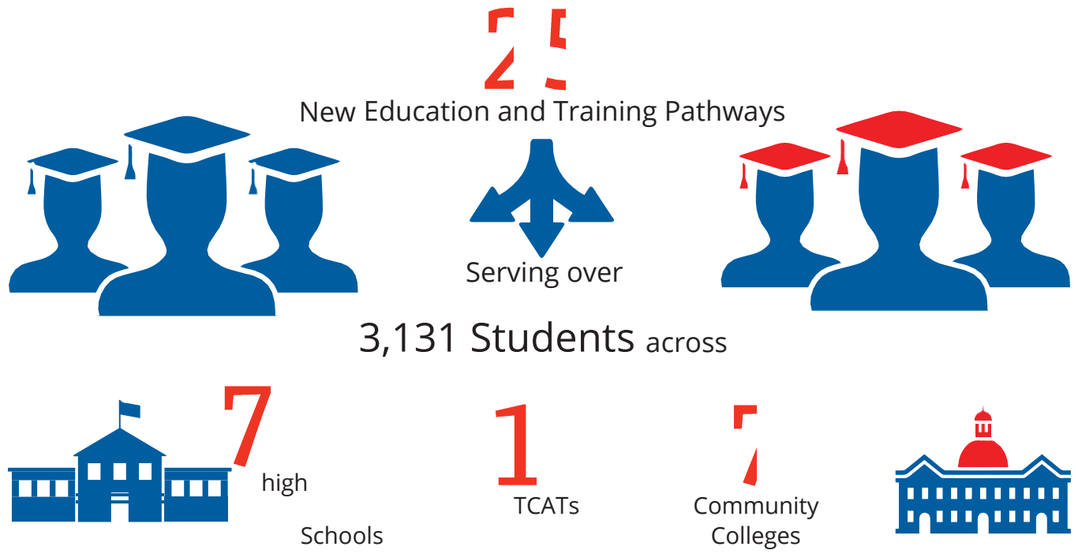
LEAP 2.0 Overview

The LEAP 2.0 Request for Proposals (RFP) directed grant recipients to address local community/ regional skills gaps through one (or a combination) of the following methods:

a) Enhance, expand, and/or acquire equipment to create an academic program at an institution of higher education that fills a critical and demonstrable local workforce need;

b) Develop and implement collaborative, meaningful, and sustained work-based learning (WBL) programs that incentivize industry partners to develop co-ops and internships that prepare students for rapid entry into the workforce in sectors facing a demonstrable shortage of skilled workers.

LEAP 2.0 Projects began operations in January 2017 and will run until May 2019. To date eleven projects have enrolled students, with many working daily to increase capacity and enrollments.



This section contains overviews of the targeted occupations as well as project profiles and overviews for each of the 11 active programs receiving LEAP 2.0 funding. Projects will continue to enroll classes and cohorts throughout May 2019. This report features enrollment data for each of the training programs and pathways from January 2017 – September 2018.

Alignment of LEAP Project Focus Areas with In-Demand Occupations as Identified by the Tennessee Department of Economic and Community Development

The Center for Economic Research in Tennessee (CERT) and the Tennessee Department of Economic and community Development (TNECD) conduct an independent evaluation of LEAP Occupations each year. Their 2018 LEAP Occupational Analysis report identified occupational groups that feature a number of jobs for which Tennessee employers have a high demand to fill across more than one economic region.[14] From their analysis, the top three occupational groups demonstrating the greatest occupational demand in Tennessee include:

- Information technology Occupations
- Production (Advanced Manufacturing) Occupations;
- Healthcare Occupations

LEAP 2.0 projects provide training designed to directly target advanced manufacturing and healthcare occupational pipelines, effectively closing skills gaps in two of the top three largest occupational groups with the great workforce demands in the state.

Because of the wide range of occupations that are aligned with both of these occupational groups, LEAP 2.0 projects are designated as either targeting Advanced Manufacturing or Healthcare Occupations. The following high need occupations identified for each of the two categories by TNECD's 2017 Occupational Analysis Report are listed below:

LEAP 2.0 Advanced Manufacturing Pathways target one or more of the following occupations:[15]

- Computer-Controlled Machine Tool Operators
- Cutting, Punching, and press Machine Setters, Operators, and Tenders
- Electrical and Electronic Equipment Assemblers
- Machinists
- Plant and System Operators
- Assemblers and Fabricators
- Team Assemblers
- Tool and Die Makers
- Welders, Cutters, Solderers, and Brazers

[14] Tennessee Department of Economic & Community Development & Center for Economic Research in Tennessee. (2018)

[15] IBID.

LEAP 2.0 Healthcare Pathways target one or more of the following occupations:[16]

- Licensed Practical and Vocational Nurses
- Medical Equipment Preparers

Funded LEAP 2.0 Programs

Project Name	Higher Education Partner(s)	Project Lead(s)	Counties Served	Award Amount
Advanced Manufacturing in East Tennessee Powered by the Drive to 55	TCAT Knoxville	TCAT Knoxville	Anderson Blount Knox	$970,000
Advanced Manufacturing Skills and Internship Program	Chattanooga State Community College	Southeast Tennessee Development District	Bledsoe Hamilton Marion	$939,623
Marine and Advanced Engineering System Technology Regional Occupations	Cleveland State Community College Pellissippi State Community College TCAT Knoxville	Blount Partnership	Blount Knox Monroe	$959,267
Mechatronics-to-Jobs (M-2-J)	Austin Peay State University TCAT Hartsville TCAT Nashville Volunteer State Community College	Workforce Essentials	Macon Robertson Sumner Trousdale Wilson	$811,461
Mechatronics: A Pipeline from Dual Enrollment to TCAT to Work-Based Learning	TCAT Dickson	TCAT Dickson	Cheatham Dickson Hickman	$400,000
Mechatronics Accelerated Completion Program	Columbia State Community College	South Central Workforce Alliance	Maury Williamson	$891,536

[16] IBID.

Funded LEAP 2.0 Programs (cont.)

Project Name	Higher Education Partner(s)	Project Lead(s)	Counties Served	Award Amount
Nashville Area Automotive and Diesel Pathway*(Inactive)*	Nashville State Community College Tennessee State University TCAT Nashville	TCAT Nashville	Davidson Robertson	Inactive
Results Matter: Providing Qualified Healthcare Professional to Meet Workforce Needs in Southern Middle Tennessee	Columbia State Community College	South Central Tennessee Workforce Alliance	Maury Williamson	$568,426
South Central Tennessee LEAP Forward for Industrial Technology Training	TCAT Hohenwald	South Central Tennessee Development District	Lawrence Lewis Maury Perry Wayne	$960,829
Strengthening the Lakeway Links 2.0: Providing a Demand Driven Workforce Supply Chain	TCAT Morristown Walters State Community College	TCAT Morristown	Cocke Grainger Greene Hamblen Hawkins Sevier	$983,440
TCATs: Taking Charge of Applied Training - A Workforce Development Commitment to West Tennessee and Memphis Regional Megasite	TCAT Covington TCAT Crump TCAT Jackson TCAT McKenzie TCAT Memphis TCAT Newbern TCAT Paris TCAT Ripley TCAT Whiteville	TCAT Jackson	Carroll Chester Dyer Fayette Gibson Hardin Haywood Henderson Henry Lauderdale Shelby Tipton Weakley	$999,123
Tennessee Central Cooperative Manufacturing Education Program	TCAT Hartsville	Greater Nashville Regional Council	Jackson Macon Smith Trousdale Wilson	$944,009

Advanced Manufacturing in East TN Powered by the Drive to 55

The "Advanced Manufacturing in East TN Powered by the Drive to 55" project has empowered TCAT Knoxville to establish advanced manufacturing dual enrollment programs at eight high schools throughout Anderson, Blount, and Knox counties. Five of the eight high schools began coursework in the Fall 2017. The remaining three high schools required additional support for classroom updates, but were operating in Spring 2018 semester. The project established a welding program at the new TCAT Knoxville campus which opened in Anderson County in January 2018.

.

Target Sector:
Advanced Manufacturing Occupations

Service Area:
Anderson, Blount, and Knox Counties

LEAP Funding Amount: $970,000

Project Lead: TCAT Knoxville

Partners:
East Tennessee Development District
Alcoa City Schools
Anderson County Schools
Blount County Schools
Knox County Schools
Maryville City Schools
Oak Ridge Schools
3M
Alcoa, Inc.
Aisin Automotive Casting
BHS Corrugated
Cherokee Millwright and Mechanical
DENSO Manufacturing Tennessee, Inc.
Gerdau Ameristeel
Interstate Mechanical Contractors, Inc.
MAG-USA
Shoffner Kalthoff Mechanical Electrical Service, Inc.
SL Tennessee

Total High School Students Enrolled in LEAP Courses: 104

Total High School Students Enrolled in LEAP EPSO Courses:104

Certifications Earned: 102

Advanced Manufacturing Skills and Internship Program

The "Advanced Manufacturing Skills and Internship Program" (AMSIP) project provides advanced manufacturing courses including dual enrollment and dual credit EPSO courses in eight high schools across Bledsoe, Hamilton, and Marion counties. These courses range from mechatronics and robotics to welding and machining training.

The project also works to combat outdated perceptions associated with advanced manufacturing through faculty externships, community outreach, and awareness-programming such as advanced manufacturing academies during the summer. AMSIP has leveraged these efforts as well as additional LEAP Collaborative resources to create an aligned work based learning pipeline, beginning with workforce readiness training embedded in the summer academies, followed by internship experiences, and finalized by full registered apprenticeship programs where available.

In addition to these efforts, the project has also added partnerships with regional Polytech Academies to provide work based learning opportunities for their enrolled students. The goal of the Polytech Academy is to academically prepare students for college and technically prepare them for the work force. With these shared goals, the Polytech Academies serve as an ideal partner to support AMSIP work-based learning pipeline.

Target Sector:
Advanced Manufacturing Occupations

Service Area:
Bledsoe, Hamilton, and Marion

LEAP Funding Amount: $939,623

Project Lead: Southeast Tennessee Development District

Partners:

Chattanooga State Community College
Bledsoe County Schools
Hamilton County Department of Education
Marion County Schools
Jasper Materials Inc.
Lodge Manufacturing
Valmont Industries Inc.
Wacker Chemie AG

Total High School Students Enrolled in LEAP Courses: 565

Total High School Students Enrolled in LEAP EPSO Courses: 157

Teacher Externships: 34

Inaugural Summer Academy Participants: 41

Work Based Learning Placements: 15

Marine and Advanced Engineering System Technology Regional Occupations

The "Marine and Advanced Engineering System Technology Regional Occupations" (MAESTRO) project represents a collaboration between Pellissippi State and Cleveland State community colleges to create advanced manufacturing dual enrollment and dual credit courses for five school districts in Blount, Knox, and Monroe counties. Both institutions hired faculty and purchased equipment that enhanced courses that lead to an Industrial Automation Certificate as well as Associate of Applied Science degrees in Industrial Technology, Electrical Engineering Technology, and Industrial Maintenance Technology. In addition to these dual enrollment opportunities, MAESTRO works with industry partners to serve adults seeking additional training and to also create work- based learning opportunities for students participating in advanced manufacturing pathways. To date, work based learning opportunities have included a summer advanced manufacturing career academy.

Target Sector:
Advanced Manufacturing Occupations

Service Area:
Blount, Knox, and Monroe Counties

LEAP Funding Amount: $959,267

Project Lead: Blount Partnership

Partners:

Cleveland State Community College
Pellissippi State Community College
TCAT Knoxville
East Tennessee Human Resource Agency
Knoxville-Oak Ridge Innovation Valley
Alcoa City Schools
Knox County Schools
Maryville City Schools
Monroe County Schools
Alcoa Tennessee Operations
Blount County Public Library Company
DENSO Manufacturing Tennessee, Inc.
EXEDY America Corporation
ProNova Solutions
Skier's Choice, Inc.
Carlex Glass
Yamaha Jet Boat Manufacturing
Boatman Trailers, LLC
Brunswick Boat Company

Total High School Students Enrolled in LEAP Courses: 83

Total High School Students Enrolled in LEAP Courses: 74

Total Adults Enrolled in LEAP Mechatronics Incumbent Worker Training: 4

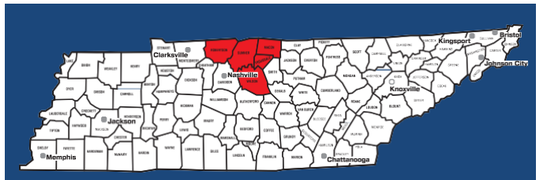
Total High School Students Enrolled in Summer Academy: 11

Mechatronics-to-Jobs

The "Mechatronics-to-Jobs" (M2J) project provides a mechatronics program at Volunteer State Community College's main campus in Gallatin to serve students in Macon, Robertson, Sumner, Trousdale, and Wilson counties. This program operates as an integral component in a new linear pathway into advanced manufacturing beginning in local high schools, and extending through partner TCATs, Volunteer State Community College, and Austin Peay State University.

. Volunteer State initiated partnerships with Sumner County Schools to provide opportunities for high school graduates to complete a full OSHA certification. Students that complete M-2-J coursework, or complete a degree at TCAT and wish to transfer to the program at VSCC, will earn college credit towards an Associate of Applied Science in Mechatronics from Volunteer State that will seamlessly transfer to a 4-year degree at Austin Peay for the students to continue their education.

In addition to the creation of this mechatronics pathway, M2J is also working with industry partners. To date two students have already completed full internships.



Target Sector:
Advanced Manufacturing Occupations

Service Area:
Macon, Robertson, Sumner, Trousdale, and Wilson Counties

LEAP Funding Amount: $811,461

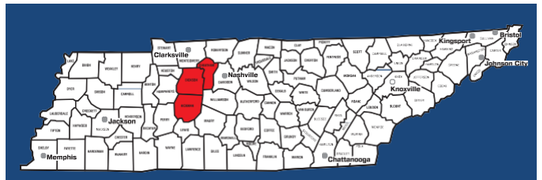
Project Lead: Workforce Essentials

Partners:
Austin Peay State University
TCAT Hartsville
TCAT Nashville
Volunteer State Community College
Macon County Schools
Robertson County Schools
Sumner County Schools
Trousdale County Schools
Aladdin Temp-Rite
Betty Machine Company Inc.
YAPP USA Automotive Systems, Inc.

Total College Students Enrolled in Mechatronics Program: 46

Mechatronics: A Pipeline from Dual Enrollment to TCAT to Work-Based Learning

The "Mechatronics: A Pipeline from Dual Enrollment to TCAT to Work-Based Learning" project expands the Mechatronics Levels I and II dual enrollment curricula established in LEAP 1.0 grant (M2S2) to Cheatham, Dickson, and Hickman counties. Dual enrollment students who complete this curriculum can seamlessly transfer credits into the full-time mechatronics program at TCAT Dickson. The TCAT also worked with industry partners to establish work-based learning opportunities for two students in Spring 2018.



Target Sector:
Advanced Manufacturing Occupations

Service Area:
Cheatham, Dickson, and Hickman Counties

LEAP Funding Amount: $400,000

Project Lead: TCAT Dickson

Partners:
Joint Economic and Community Development Board of Cheatham County
Cheatham County Schools
Hickman County Schools
Dal-Tile Corporation
Tennsco Corporation

Total TCAT Students Enrolled in LEAP Programs: 66

Industry Credentials Earned by TCAT Students in LEAP Programs: 63

Total High School Students Enrolled in LEAP Courses: 111

Total High School Students Enrolled in LEAP EPSO Courses: 40

Total College Students Enrolled in Mechatronics Program: 29

Totals OSHA-10 Certifications Earned: 21

Mechatronics Accelerated Completion Program

The “Mechatronics Accelerated Completion Program” (MAC Pro) project at Columbia State Community College provides the opportunity for students from Williamson and Maury counties to complete an accelerated Associate of Applied Science degree in Advanced Integrated Industrial Technology with an option in Mechatronics. This unique program combines a number of dual enrollment and dual credit courses to allow students to simultaneously meet both high school and community college requirements, enabling them to graduate from high school with both a diploma and a postsecondary degree. The MAC Pro collaborative initiated work based learning opportunities for students enrolled in the Williamson county location, and offered work-based learning opportunities to ten students.

Target Sector:
Advanced Manufacturing Occupations

Service Area:
Maury and Williamson Counties

LEAP Funding Amount: $891,536

Project Lead: South Central Workforce Alliance

Partners:
Columbia State Community College
Maury County Public Schools
Williamson County Schools
Accurate Energetic Systems, LLC
AOC Metal Works
APCOM Inc.
Columbia Machine Works Inc.
GCP Applied Technologies Inc.
Horn USA, Inc.
Lasko Products Inc.
Nissan North America
Southeastern Manufacturing Enterprise

Total High School Students Enrolled in LEAP Courses: 912

Total High School Students Enrolled in LEAP EPSO Courses: 483

Total OSHA-10 Certifications Earned: 132

Work Based Learning Placements: 10

Results Matter: Providing Qualified Healthcare Professionals to Meet Workforce Needs in Southern Middle TN

The "Results Matter: Providing Qualified Healthcare Professionals to Meet Workforce Needs in Southern Middle Tennessee" project leverages LEAP funding as seed money to establish two new healthcare programs at Columbia State Community College: a Medical Lab Technology Associate of Applied Science (A.A.S.) program and an Anesthesia Technology A.A.S. program. These high demand programs were implemented in a phased approach, with the Medical Lab Tech program underway with its inaugural cohort in 2017, and the Anesthesia Tech program begining Fall 2018. Per recommendations from the TN Medical Laboratory Board, Columbia State has deliberately limited enrollment to these programs in order to meet strict guidelines for accreditation and will look to expand the programs to more students over the following two years.

Target Sector:
Healthcare Occupations

Service Area:
Maury and Williamson Counties

LEAP Funding Amount: $568,426

Project Lead: South Central Tennessee Workforce Alliance

Partners:

Columbia State Community College
Maury County Public Schools
Williamson County Schools
Maury Regional Medical Center
Vanderbilt University Medical Center
Williamson Medical Center

Inaugural Medical Lab Tech Program Enrollment: 10

Total High School Students Enrolled in Anesthesia Tech Program: 17

South Central Tennessee LEAP Forward for Industrial Technology Training

The "South Central Tennessee LEAP Forward for Industrial Technology Training" project enables TCAT Hohenwald's to expand its capacity for its Industrial Maintenance and Welding programs by creating four new satellite classroom spaces throughout Lawrence, Maury (Mt. Pleasant area), Perry, and Wayne counties. Before the addition of these classroom spaces, both programs regularly featured an annual combined waitlist of 58 students seeking to enroll at the main campus for training in these fields. Each of the four new sites will allow TCAT Hohenwald to better serve these students and include flexible work spaces that can easily be transitioned into training centers that are responsive to specialized short- and long-term industry training needs. The project has also taken another step in building out this pipeline throughout the region by establishing dual enrollment opportunities at the sites.

Partners:

TCAT Hohenwald

Lawrence County Schools
Lewis County Schools
Maury County Public Schools
Perry County Schools
Wayne County Schools

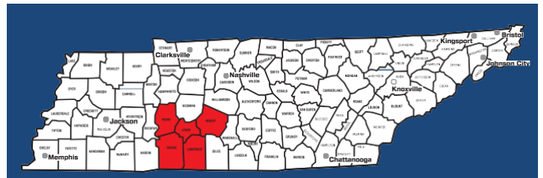
Lawrence County Chamber of Commerce Maury County Chamber and Economic Alliance
Perry County Chamber of Commerce and Tourism

Wayne County Chamber of Commerce

Wayne County Joint Economic and Community Development Board

American Hardwood Industries

Tennessee Valley Electric Cooperative (TVEC)
United States Tile, Inc. (UST)



Target Sector:
Advanced Manufacturing Occupations

Service Area: Lawrence, Lewis, Maury, Perry, and Wayne Counties

LEAP Funding Amount: $960,829

Project Lead: South Central Tennessee Development District

Total Students Enrolled in TCAT Industrial Maintenance Program: 71

Total High School Students Enrolled in LEAP EPSO Courses: 116

Total SNAP-On Digital Multimeter Certifications: 42

Columbia Machine Works, Inc. DRM, LLC
GCP Applied Technologies
Hassell & Hughes Lumber Co., Inc.
IB-Tech Tennessee
IDC - Industrial Door Contractors, Inc. Lincoln Brass Works, Inc.
Lifespan Health
Modine Manufacturing Co. Mount Pleasant Power System NYX Linden
Smelter Service Corporation
Sonoco
Tennessee Aluminum Processors, Inc. (TAP)

Strengthening the Lakeway Links 2.0

The "Strengthening the Lakeway Links 2.0" (STLL2) project has expanded the industrial electricity, and advanced manufacturing EPSOs and college training programs established by the LEAP 1.0 program into Cocke, Greene, and Sevier counties. Embedded in these programs are the opportunities to earn industry credentials including Starrett's SNAP-ON Precision Measurement Certification and the ACT's Work-Keys and National Career Readiness Certificate (NCRC), a nationally recognized job-readiness curriculum and assessment. Due to recent major changes to curriculum and testing for the NCRC offered by ACT, the implementation of this portion of the STLL2 initiative did not begin until the end of the 2017-18 school year. NCRC testing in the high schools is ongoing as of Fall 2018.

The project will also expand its soft skills initiative, the "Work Ethic Diploma", to newly partnered high schools in the project's service area. STLL2 has also coordinated with industry partners to deliver work-based learning opportunities throughout the year, with 27 students participating..

Target Sector:
Advanced Manufacturing Occupations

Service Area: Cocke, Grainger, Greene, Hamblen, Hawkins, and Sevier Counties

LEAP Funding Amount: $983,440

Project Lead: TCAT Morristown

Total High School Students Enrolled in LEAP Courses: 698

Total High School Students Enrolled in LEAP EPSO Courses: 369

Total SNAP-On Precision Measurement Certifications: 1148*

High School Seniors Enrolled in Work Ethic Diploma: 718

Work Based Learning Placements: 70

Strengthening the Lakeway Links 2.0

Partners:
Walters State Community College
Smoky Mountain Area Workforce Board
Cocke County School System
Grainger County Schools
Greene County Schools
Greeneville City Schools
Hamblen County Schools
Hawkins County School District
Sevier County Schools
3M
Alcoa Howmet
American Appliance Products, Inc.
American Greetings
Ball Corporation
Bush Brothers & Company
Clayton Rutledge
Colortech Inc.
ConAgra Foods, Inc.
Cooper Standard
Dalton Hydraulic LLC
GE Energy
Funderburk Electrical Services
Hearthstone Homes
Huf North America
Hutchinson
Jarden Zinc Products
John Deere Power Products
Kelly Services
Leonard Associates, LLC
MAHLE Inc.
Meritor, Inc.
Newport Utilities
Norris Homes
The Original Footwear Co.
Parker Hannifin Corporation
Phoenix Closures Inc.
Renold Jeffrey
RGE USA Inc.
Rich Products Corporation
Sexton Furniture Manufacturing, LLC
SI Group Inc.
Sonoco
Team Technologies Inc.
Tuff Torq Corporation
U.S. Nitroge

**The industry certifications are the NC3 Starrett Snap-on Precision Measurement Instrument (PMI). Each student can earn up to six PMI certifications.*

TCATs: Taking Charge of Applied Training - A Workforce Development Commitment to West Tennessee and Memphis Regional Megasite

The "TCATs: Taking Charge of Applied Training - A Workforce Development Commitment to West Tennessee and Memphis Regional Megasite" project has expanded and enhanced dual enrollment opportunities in machine tool technology and welding technology in Carroll, Chester, Dyer, Fayette, Gibson, Hardin, Haywood, Henderson, Henry, Lauderdale, Shelby, Tipton, and Weakley counties. Coursework incorporates industry-recognized certifications, including the National Institute for Metalworking Skills (NIMS) certification.

The project has also partnered closely with the Greater Memphis Medical Device Council to ensure the requisite skills are provided for the region. Additional industry partners, including Stanley Black & Decker, Inc. and Design Team Sign Company, have also contributed to optimize course offerings and initiate robust work-based learning experiences for students.

Target Sector:
Advanced Manufacturing Occupations

Service Area: Carroll, Chester, Dyer, Fayette, Gibson, Hardin, Haywood, Lauderdale, Shelby, Tipton, and Weakley Counties

LEAP Funding Amount: $999,123

Project Lead: TCAT Jackson

Total High School Students Enrolled in LEAP Courses: 596

Total High School Students Enrolled in LEAP EPSO Courses: 596

Total TCAT Students Enrolled in LEAP Welding Classes: 235

Total Certified Production Technician Certifications Earned: 243

Work Based Learning Placements:

Total NIMS Industry Certifications Earned: 64

TCATs: Taking Charge of Applied Training - A Workforce Development Commitment to West Tennessee and Memphis Regional Megasite

Partners:

TCAT Covington
TCAT Crump
TCAT McKenzie
TCAT Memphis
TCAT Newbern
TCAT Paris
TCAT Ripley
TCAT Whiteville
Southwest Tennessee Development District
Bartlett City Schools
Carroll County Schools
Chester County Schools
Dyersburg City Schools
Fayette County Public Schools
Hardin County Schools
Haywood County Schools
Milan Special School District
Tipton County Schools
Weakley County Schools
Bennett's Inc.
Cupples' J&J Co., Inc.
DANA Holding Corporation
DENSO Manufacturing Arkansas, Inc.
Design Team Sign Company, LLC
Dynametal Technologies, Inc.
Greater Memphis Medical Device Council
Indmar Products Co., Inc.
Institutional Casework Inc.
Marvin Windows & Doors
Mueller Fittings Company, Inc.
ProMED Concepts, LLC
Republic Doors & Frames
SRG Global Newbern
Stanley Black & Decker, Inc.
Thyssenkrupp Elevator Manufacturing, Inc.

Tennessee Central Cooperative Manufacturing Education Program

The "Tennessee Central Cooperative Manufacturing Education Program" (TCCMEP) delivers advanced manufacturing, industrial maintenance, and mechatronics training and dual enrollment coursework to Jackson, Macon, Trousdale, and Wilson counties. The project purchased training equipment to outfit three TCAT classrooms to serve full-time students. Specifically, students have been trained in skill areas designated by industry partners including electricity, electrical controls, fluid power, motor controls, Programmable Logic Controls (PLCs), welding, and robotics.

The project also grew dual enrollment for mechatronics, machine tool technology, and welding courses in four regional high schools, in which 90 students participated.

Target Sector:
Advanced Manufacturing Occupations

Service Area: Jackson, Macon, Smith, Trousdale, and Wilson Counties

LEAP Funding Amount: $944,009

Project Lead: Greater Nashville Regional Council

Partners:
TCAT Hartsville
Jackson County Schools
Macon County Schools
Smith County Schools
Trousdale County Schools
Wilson County Schools
Amatrol, Inc.
DESTACO
Mueller Industries
Orchid International

Total TCAT Students Enrolled in LEAP Programs: 155

Total High School Students Enrolled in LEAP EPSO Courses: 90

VII. Policy Recommendations and Next Steps

The LEAP program has established reliable practices and processes to organize community engagement, clarify industry needs, and implement productive and sustainable workforce development pipelines on both the K12 and postsecondary levels. It is critical, however, for LEAP to remain nimble and responsive to future challenges related to educational and workforce alignment. Recent policy developments in Tennessee have created several opportunities to create new practices and that align LEAP with opportunities pertinent to adult learners and early postsecondary opportunities. Below are a list of recommended policy recommendations and next steps for the General Assembly to consider enhancing LEAP's effectiveness over the coming years.

Leverage new rounds of LEAP funds to increase adult learner engagement in LEAP initiatives, in partnership with Tennessee Reconnect.

In advancing the efforts of LEAP into the third round of funding, LEAP 3.0 should ensure a central focus on the engagement and support of adult learners seeking to obtain a postsecondary credential. Along with serving high school students and building a pipeline from K-12 to workforce, previous LEAP projects have included specialized pathways for adult learners who are incumbent workers; however, the launch of the Tennessee Reconnect community college grant positions adult learners in more ways to be involved with LEAP projects and opportunities.

LEAP can adjust its operational scope and enhance its Collaborative model to partner with Tennessee Reconnect resources to further enhance incumbent worker pipelines and prioritize adult learning initiatives. LEAP programs could include additional specialized incumbent worker training options, as well as feature work based learning apprenticeships models that provide a responsive and flexible education pipeline for Tennessee's in-demand industries. Promoting a focus on adult learners will ensure that LEAP work continues to be strategically aligned to Tennessee's Drive to 55 goals and policy strategies therein.

Ensure LEAP includes focus populations such as underemployed adults that require training to update skills and find job opportunities.

Along with a stronger focus on adult learners generally, future LEAP projects should encourage employers and institutions of higher education to create and support pathways for adults who are underemployed – meaning those in low-wage jobs without a pathway to economic security. Many that are underemployed or unemployed face significant barriers to employment and require more support to overcome these barriers. Through LEAP partnerships employers and educators can work to provide innovative opportunities such as adult training programs, upskilling or reskilling programs, and accommodations or services for job seekers with barriers to employment. Targeted support for underemployed adults could also provide a critical focus on special populations. Projects could include additional concentrated focus on engaging dislocated workers, low-income individuals, individuals completing Adult Basic Education programs, individuals with limited English proficiency, homeless individuals, ex-offenders, veterans, and displaced homemakers. LEAP projects could maximize the impact of state and local areas working to provide and improve job training and related services to focus populations.

Support expansion of apprenticeships and pre-apprenticeships that offer continued employment upon completion of program.

The first two rounds of LEAP were largely focused on the implementation of pathways that began in high school and extended through a TCAT or Community College. Future LEAP projects should consider ways to meet employers' immediate and long-term employment needs through apprenticeship options. The registered apprenticeship program provides a flexible training system that combines job-related technical instruction with structured on-the-job learning experiences. The apprenticeship model provides the opportunity for workers seeking high-skilled, high-wage jobs and for employers seeking to build a qualified workforce. Apprenticeships work for multiple industries, including advanced manufacturing, construction, healthcare, hospitality, information technology, and finance. In alignment with LEAP goals, upon completion of registered apprenticeships, participants receive an industry-issued, nationally-recognized credential that certified occupational proficiency. An expansion into apprenticeships should also include data collection and analysis components in order to evaluate efficacy.

Opportunities related to apprenticeships for LEAP can include expanding the number and diversity of employer-sponsored registered apprenticeships, promoting the development of and access to pre-apprenticeships programs in High Schools and TCATs, and engaging community colleges and TCATs in delivering the related instructional components of registered apprenticeship programs. Employers could also partner with TCATs and community colleges to co-develop registered apprenticeship programs that guarantee offers of continued employment or consideration for future employment upon completion of the program.

Expand youth access to EPSOs with a strategic focus on high-needs areas, in alignment with workforce needs.

In 2015, 92% of high schools offered at least one Early Postsecondary Opportunity (EPSO). However, significant inequities of access are correlated with family income, background, and location. According to the Tennessee Department of Education, while some districts offer as many as six EPSOs, in 2017, eight districts did not offer a single Early Postsecondary Opportunity. With the passing of Public Chapter 450 to ensure all high schools offer at least four EPSOs, and the new accountability metrics counting EPSOs under the Tennessee Succeeds ESSA State plan, LEAP can play a critical role in expanding access to educational opportunities - aligned to regional workforce needs - in high-needs areas.

LEAP partnerships can play a critical role in providing more CTE oriented EPSOs. In a rapidly changing, global economy, all students must develop the academic, technical, and employability skills required for success in the workforce. CTE can deliver these skills, and LEAP partnerships are uniquely equipped to fill EPSO gaps. These opportunities may be provided through traditional classroom instruction, online instruction, blended learning, or other educationally appropriate methods.

Create a unified LEAP board of advisers to ensure quality, consistency, and efficacy of state funded labor and education opportunities.

Currently the Tennessee Higher Education Commission is working closely with the Tennessee Board of Regents, the University of Tennessee, Tennessee's Independent Colleges and Universities, as well as the Tennessee Department of Education to review policies, highlight best practices, and produce recommendations related specifically to EPSOs. In previous years, the Governor's workforce subcabinet served as the decision-making mechanism for selection of LEAP funded projects. To ensure the future success, sustainability, and analysis of work to date of LEAP investments, a unified workforce development system should be reconvened or developed. In order to achieve this goal, THEC recommends the establishment of a cross-agency working group. This cross-agency group would be essential in ensuring quality, consistency, efficiency, and efficacy of state and federally funded training opportunities. This board could also work with state and local workforce boards to ensure that new and existing training responds to local or statewide labor markets along with aligning to WIOA plan.

TENNESSEE
LEAP

Tennessee Higher Education Commission, Authorization No. 339195, 500 copies, January 2017. This public document was promulgated at a cost of $4.20 per copy.

Tennessee Higher Education Commission